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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,032	02/11/2004	Sadeq M. Faris		2193
26665	7590	10/13/2005		
REVEO, INC. 3 WESTCHESTER PLAZA ELMSFORD, NY 10523			EXAMINER	PEACE, RHONDA S
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 10/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/777,032	FARIS, SADEG M.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Rhonda S. Peace	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 26 September 2005.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 18-37 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 18-37 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 11 February 2004 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                     | Paper No(s)/Mail Date. _____ .  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____ .                                  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention.

Claims 18 and 19 recite the limitation "at least one cavity between at least one set of adjacent spheres in said array;" however, previously in each of claims 18 and 19, the "array" is comprised of "routing elements", and no mention of spheres within the array is disclosed. There is insufficient antecedent basis for this limitation in the claim. Examination has proceeded under the assumption that the term "spheres" should be replaced with the term "elements" within claims 18 and 19.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 18, 19, and 29-34 are rejected under 35 U.S.C. 102(e) as being anticipated by DePue et al (US 6668107).

Pertaining to claims 18, 19, and 29-34, DePue et al discloses an optical planar light wave switching circuit with a substrate, capable of transmitting light signals parallel

to the major surfaces of the substrate, that has an array of routing elements  $S_{1,1}$ ,  $S_{1,2}$ , etc, and a plurality of cavities, or trenches **82** positioned between the routing elements, where these cavities are configured to receive a filler ("block") to change the refractive index of the cavity, thereby making each cavity **82** an optical modulation device for reducing insertion loss of the circuit (column 9 lines 65-67, column 10 lines 1-14 and 40-67, column 11 lines 1-26, Figure 6). The cavities **82** may be of identical configuration, or of dissimilar configuration, as any of the cavities may be left empty (without the index-changing filler previously mentioned), may be breaks in the waveguides filled by cladding material, or may be other various options proposed by the inventor (column 11 lines 1-26).

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 20-28, and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over DePue et al (US 6668107) in further view of Ishikawa et al (US 6444976).

Regarding claims 20-28, and 35-37, DuPue et al discloses the device as previously described, including the use of cavities and blocks within an optical switching light wave circuit. However, DePue et al does not disclose the use of routing spheres as the routing element used within their light wave circuit. Ishikawa et al discloses the use of routing spheres within an optical array, where selective grating of any of the routing spheres will allow the user to predetermine the route in which they wish the optical signal to travel through (column 4 lines 26-50, column 5 lines 11-17, Figures 7, 8 and 11). Similarly, the routing spheres may be fixed so that light may travel one direction, or they also may route signals in a plurality of directions (column 2 lines 9-37, column 3 lines 35-45, Figure 3). It would have been obvious to one of ordinary skill in the art to combine the teachings of DePue et al and Ishikawa et al as the use of routing spheres allows for improvement in costs, size, and speed of previously known switching devices (column 1 lines 55-67, column 2 lines 1-6).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pender (US Prepublication document US 2004/0028357) describes a three-dimensional optical matrix photonic logic device that utilizes optical elements at the nodes of the array to route optical signals through the device. These optical elements may take on a number of geometries, including a spherical reflective

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structure, and are placed within a substrate and cladding area with the same geometrical freedom. The device as described by Pender also includes several input and output areas through which optical signals can be routed to a number of various optical devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda S. Peace whose telephone number is (571) 272-8580. The examiner can normally be reached on M-F (8-5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272- 2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Rhonda S. Peace  
Examiner  
Art Unit 2874

  
MICHELLE CONNELLY-CUSHWA  
PRIMARY EXAMINER